

EXHIBIT B

Mark Graff
2/14/2025

1 UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF NEW YORK
3
4 SECURITIES AND EXCHANGE)
5 COMMISSION,)
6 Plaintiff,)
7) Case No.
8) 23-cv-09518-PAE
9 SOLARWINDS CORP. and)
10 TIMOTHY G. BROWN,)
11 Defendants.)
12)
13
14 VIDEOTAPED DEPOSITION OF MARK GRAFF, taken by
15 the Defendant, pursuant to Notice, held at the law firm
16 of Latham & Watkins LLP, 1271 Avenue of the Americas,
17 33rd Floor, New York, New York 10020, on February 14,
18 2025, at 9:45 a.m., before a Notary Public of the State
19 of New York.

20
21
22
23
24 Reported by:
25 BROOKE E. PERRY
 JOB No. 250214BPE

1 WITNESS	INDEX EXAMINATION BY	PAGE
2 Mark Graff	Serrin Turner	6
3		
4 EXHIBITS		
5 GRAFF	DESCRIPTION	PAGE
6 Exhibit 1	Expert Report of Mark G. Graff	20
7 Exhibit 2	Rebuttal Expert Report of Mark G. Graff	20
8 Exhibit 3	SolarWinds Security Statement	63
9 Exhibit 4	Testimony of Mark Graff Vice President, NASDAQ Omx Group Before the House Financial Services Committee Subcommittee on Capital Markets	77
10 Exhibit 5	NASDAQ Omx Provides Updates on Events of August 22, 2013	85
11 Exhibit 6	Statement on NASDAQ Trading Interruption	94
12 Exhibit 7	News Article Entitled 'Connectivity Issue' Led to Three-Hour Shutdown	96
13 Exhibit 8	NIST Cybersecurity Framework 2.0: Small Business Quick-Start Guide	107
14 Exhibit 9	Expert Report of Gregory Ratray	120
15 Exhibit 10	Sw-Sec-Sdny_00048050-095	133
16 Exhibit 11	Sw-Sec-Sdny_00254254-266	160
17 Exhibit 12	7.13.2020 Review	165
18 Exhibit 13	Spreadsheet	166
19 Exhibit 14	Sw-Sec00631418-427	174
20 Exhibit 15	Sw-Sec-Sdny_00050922	188
21 Exhibit 16	Nigel King's LinkedIn Profile	191
22 Exhibit 17	Sw-Sec00012266-275	194
23 Exhibit 18	Transcript Excerpt of Eric Quitugua	197
24		
25		

3

1 A P P E A R A N C E S:
2 ON BEHALF OF THE PLAINTIFF:
3 SECURITIES AND EXCHANGE COMMISSION
4 100 F Street NE
5 Washington, DC 20549
6 BY: CHRISTOPHER J. CARNEY, ESQ.
7 carneyc@sec.gov
8 CHRISTOPHER BRUCKMANN, ESQ.

9 ATTORNEYS FOR DEFENDANTS:
10 LATHAM & WATKINS LLP
11 1271 Avenue of the Americas
12 New York, NY 10020
13 BY: SERRIN TURNER, ESQ.
14 serrin.turner@lw.com
15 MATTHEW VALENTI, ESQ.
16 JOSH KATZ, ESQ.

17 ALSO PRESENT:
18 GREGORY RATRAY- Expert Witness for SolarWinds
19 JONATHAN JUAREZ-Videographer

1	INDEX (CONTINUED)	PAGE
2 GRAFF	DESCRIPTION	PAGE
3 Exhibit 19	Sw-Sec00043620-630	205
4 Exhibit 20	Sw-Sec00386134-143	209
5 Exhibit 21	Sw-Sec00001497-550	215
6 Exhibit 22	Moderate Summary Kp Spreadsheet	231
7 Exhibit 23	Sw-Sec-Sdny_00055077	248
8		
9	(Exhibits retained by Reporter.)	
10	(EXHIBITS BOUND SEPARATELY.)	
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

2

4

Mark Graff
2/14/2025

1 Do you remember that?
 2 **A.** I think you're talking about the IPO with
 3 Facebook.
 4 **Q.** No. That's a different one. That's in 2012.
 5 I'm talking about 2013. You don't remember the flash
 6 freeze?
 7 **A.** You'd have to refresh my memory on that.
 8 Am I going to get a copy of that?
 9 MR. TURNER: Yes, once it's marked.
 10 (Whereupon, NASDAQ OMX Provides Updates
 11 on Events of August 22, 2013 was marked as
 12 Graff Exhibit 5, for identification, as of this
 13 date.)
 14 THE WITNESS: All right. I have it.
 15 **Q.** Take a minute to review if you'd like, but this
 16 is a NASDAQ statement from -- published looks like
 17 August 29, 2013, titled: "NASDAQ OMX Provides Updates
 18 on Events of August 22, 2013."
 19 Does this refresh your recollection at all
 20 about this event?
 21 **A.** I'll need another minute to look.
 22 **Q.** Sure.
 23 **A.** All right. I've reviewed the document.
 24 **Q.** Does this refresh your recollection about the
 25 incident? Do you remember that trading stopped on

1 **A.** I do see that.
 2 **Q.** And that's what led to the freeze here. Is
 3 that your understanding?
 4 **A.** I don't know. I really didn't get involved in
 5 this because it wasn't a cybersecurity incident, and I
 6 had no responsibility for the failover of the
 7 processors. So I didn't get involved in this.
 8 **Q.** Does cybersecurity -- have you ever heard of
 9 the abbreviation "CIA" in cybersecurity?
 10 **A.** Sure.
 11 **Q.** Confidentiality, integrity, and availability?
 12 **A.** Mm-hmm, yes.
 13 **Q.** And cybersecurity protects all three aspects of
 14 data, right?
 15 **A.** Well, I lecture on this too. Cybersecurity
 16 helps to ensure availability of systems against attack
 17 or malfeasance or mistakes. But this wasn't a
 18 cybersecurity incident, and I didn't have the
 19 responsibility for the uptime of the entire stock
 20 market.
 21 **Q.** You said malfeasance or mistakes?
 22 **A.** Uh-huh.
 23 **Q.** Isn't a mistake if there's a flaw in the code
 24 that causes the exchange to go down?
 25 **A.** I suppose there was a mistake. I wasn't

85

87

1 NASDAQ for more than three hours?
 2 **A.** I wouldn't have been able to tell you that. I
 3 see it says that here.
 4 **Q.** And according to this document, the cause was a
 5 spike in trading messages at the NASDAQ that exceeded
 6 its capacity to process.
 7 Does that sound right to you?
 8 **A.** Yeah.
 9 **Q.** And that should have caused a failover to a
 10 backup system, I believe it says, but there was a flaw
 11 in NASDAQ's code that prevented the failover from
 12 happening cleanly?
 13 MR. CARNEY: Can you direct us --
 14 MR. TURNER: Yes, one moment.
 15 MR. CARNEY: Thanks.
 16 **Q.** Directing your attention to the middle of
 17 page 2, starting with:
 18 "The confluence of these events vastly
 19 exceeded the SIP's planned capacity, which
 20 caused its failure and then revealed a latent
 21 flaw in the SIP's software code. This latent
 22 flaw prevented the system's built-in redundancy
 23 capabilities from failing over cleanly, and
 24 delayed the return of system messages."
 25 Do you see that?

1 responsible for the operation of the stock market as
 2 such. I was responsible for protecting them against
 3 cybersecurity incidents. This wasn't one.
 4 **Q.** Business continuity plans, you were in charge
 5 of those, correct? That's part of the cybersecurity
 6 program?
 7 **A.** We had some business continuity plans. That
 8 wasn't -- I didn't have responsibility for the business
 9 continuity plans, that was a whole other department and
 10 a whole other vice president.
 11 **Q.** You testified, however, that the NASDAQ had
 12 robust business continuity plans. Were you only
 13 testifying that they were robust against attackers but
 14 not robust against glitches? Is that how Congress would
 15 have understood your testimony?
 16 MR. CARNEY: Objection. Vague.
 17 Mischaracterizes testimony. You can refer him
 18 to the testimony itself on page 2.
 19 **Q.** Mr. Graff --
 20 **A.** I have a lot of pieces of paper in front of me.
 21 Yes, go ahead.
 22 MR. CARNEY: I mean, I'm reading the
 23 statement here: "Below is a summary of the
 24 process, policies, and procedures that NASDAQ
 25 OMX generally follows in connection with

86

88

Mark Graff
2/14/2025

1 information security."

2 MR. TURNER: Yes.

3 Q. And part of having business continuity plans in
4 place, part of the purpose of having business continuity
5 plans is to ensure the continued availability of data?

6 A. Yes, that's right.

7 Q. Okay. So this was a gap in the company's
8 business continuity processes, was it not?

9 MR. CARNEY: Objection. Vague as to
10 "this."

11 A. The -- the incident you are talking about that
12 had happened in 2013, the so-called "SIP" problem, yes,
13 that would have been a -- there was an outage that
14 represents an issue with the provisions that NASDAQ made
15 at that time for business continuity.

16 (Court reporter clarification.)

17 Q. Yeah. And it stemmed from a problem, an issue,
18 with NASDAQ's business continuity plans or business
19 continuity processes?

20 A. Well apparently there was a problem in the
21 software where there was a cascade of data coming, I
22 think coming from the New York Stock Exchange, and so
23 their system wasn't able to keep up with it, and it
24 resulted in an outage. Absolutely.

25 Q. And that's a gap, right? It wasn't designed to

1 Q. Okay.

2 A. And NASDAQ took responsibility for the issues.

3 Q. Right. And none of this doesn't mean -- excuse
4 me -- none of this means, sir, that your prior testimony
5 wasn't true, right?

6 A. My testimony in front of Congress was accurate
7 and factual.

8 Q. NASDAQ did have robust continuity plans in
9 place, which included systems designed to failover in
10 realtime?

11 A. Yes.

12 Q. As a general matter, it did?

13 A. Yes.

14 Q. But that doesn't mean its systems were perfect,
15 right?

16 A. That's right.

17 Q. In fact, it says, toward the end of this
18 statement here, on page 3, at the top, it says:
19 "NASDAQ OMX is deeply disappointed in
20 the events of August 22, and our performance is
21 unacceptable to our members, issuers and the
22 investing public. While getting to 100 percent
23 performance in all of our activities, including
24 our technology is difficult, it's our
25 objective."

89

91

1 deal with that risk?

2 MR. CARNEY: Objection. Vague.

3 A. Well, I wasn't -- I didn't ever see that
4 software. I don't know what it was designed to do.
5 Clearly, the business continuity plan didn't operate the
6 way it should have.

7 Q. And, in fact, there's a statement here -- hang
8 on one second. One moment, please. I'm sorry. I was
9 looking at the wrong page.

10 Page 1. Second paragraph, it says:
11 "A preliminary internal review has
12 identified a combined series of technology
13 events that caused the initial market problems
14 and extended the halt period. A number of
15 these issues were clearly within the control of
16 NASDAQ OMX. As a securities information
17 processor for NASDAQ stocks, we are responsible
18 for them, regret them and intend to take all
19 steps necessary to address them, to enhance
20 stability and functionality in the markets."
21 So there were issues that were under NASDAQ's
22 control related to its business processes that caused
23 the incident and that needed to be fixed after the
24 incident, right?

25 A. Yes, that's what it says. I agree.

1 So in other words, while perfection is the
2 ideal, you can't expect it in practice; isn't that
3 basically what this statement is saying?

4 A. Well, I don't know that I want to paraphrase
5 something that was written all these years ago. But
6 certainly, I'll agree with the idea that perfection is
7 not achievable in every case. There is -- as I said in
8 my report, there are -- a company is -- will not have
9 perfect cybersecurity and they will. If they're
10 searching carefully, they will occasionally encounter an
11 issue.

12 Q. Yeah. And even if an issue occurs, it doesn't
13 mean they had a failure to have practices in place.
14 Just like in this case, there was an issue, but
15 nonetheless, as you've testified, there were, in fact,
16 robust business continuity practices in place?

17 A. Are we talking now about the NASDAQ OMX
18 incident in 2013?

19 Q. Yes. Again, even though this issue arose, you
20 truthfully testified there were robust business
21 continuity procedures in place? Those two things are
22 not incompatible, right?

23 A. Well, first of all, my testimony was about a
24 year ahead of this incident. And, in fact, my testimony
25 was prior to the Facebook problem I talked about, with

90

92

Mark Graff
2/14/2025

1 the Facebook IPO.
 2 But what I said in front of Congress was true.
 3 We did have the business continuity plans and some
 4 provisions that I felt were robust. I was reporting, I
 5 didn't have personal responsibilities or administrative
 6 responsibilities for those plans, but I reported
 7 truthfully that we did have business continuity plans.
 8 And sometime later, both with the Facebook IPO in 2012,
 9 not too long after I testified --
 10 Q. The Facebook IPO was in May 2012, sir, before
 11 you testified.
 12 A. Was it May? And then before I testified?
 13 Yeah, that's fine. I agree with you.
 14 Q. Let me make sure I understand what you agree
 15 with me on. I just want to get a clear answer for the
 16 record.
 17 A. The dates of the Facebook incident, that does
 18 sounds more accurate, sure.
 19 Q. Okay. But look, you can have robust continuity
 20 procedures in place, but nonetheless, issues can arise
 21 from time to time, fair?
 22 A. Well, it depends what you mean by "issues." I
 23 mean, of course, there are going to be imperfections.
 24 But when we use the broad term "issues," that's a
 25 different matter altogether.

93

1 addressing technological vulnerabilities of
 2 exchanges and other market participants."
 3 So you would agree that this was a major issue
 4 that arose for NASDAQ?
 5 MR. CARNEY: Objection. Vague.
 6 Q. It was a major issue in connection with
 7 NASDAQ's business continuity controls?
 8 MR. CARNEY: Are you saying
 9 cybersecurity? Are you tying it to
 10 cybersecurity? That's why it's vague.
 11 MR. TURNER: I don't need the speaking
 12 objection.
 13 Go ahead, Mr. Graff.
 14 A. Well, this statement relates to an outage that
 15 occurred on August 22, 2013, a disruption of trading
 16 activities as a result of a technical flaw that was
 17 described in the NASDAQ statement. It had nothing to do
 18 with cybersecurity. The outage didn't have anything do
 19 with cybersecurity, and it wasn't part of my
 20 responsibilities, and I don't remember the incident very
 21 well, to be honest.
 22 Q. Mr. Graff, I'm just asking you whether this
 23 qualifies as a serious issue in connection with NASDAQ's
 24 business continuity processes?
 25 MR. CARNEY: Objection. Vague.

95

1 Q. Let me ask you, sir, this issue is fairly
 2 described as a major one, correct?
 3 A. You're talking about the business outage at
 4 NASDAQ in 2013?
 5 Q. Yes. Yes.
 6 A. Yes, I think we can call that a major incident.
 7 Q. In fact, the SEC itself put out a statement as
 8 to this trading disruption.
 9 (Whereupon, Statement on NASDAQ Trading
 10 Interruption was marked as Graff Exhibit 6, for
 11 identification, as of this date.)
 12 Q. So I'm showing you what's been marked as Graff
 13 Exhibit 6. It's from August 22, 2013, Statement on
 14 NASDAQ Trading Interruption by chief -- excuse me, Chair
 15 Mary Jo White.
 16 Do you see that?
 17 A. Oh, I see it, yes.
 18 Q. And it says:
 19 "The continuous and orderly functioning
 20 of the securities markets is critically
 21 important to the health of our financial system
 22 and the confidence of investors. Today's
 23 interruption in trading, while resolved before
 24 the end of the day, was nonetheless serious and
 25 should reinforce our collective commitment to

94

1 Outside the scope.
 2 A. Well, the disruption was certainly serious.
 3 The flaw in design that NASDAQ identified was,
 4 therefore, a serious flaw. You -- I guess, the other
 5 thing that didn't go right was that the failover doesn't
 6 seem to have happened as it should have. And so there's
 7 a -- that's a serious issue as regards to the failovers,
 8 too.
 9 Q. Okay. And there's -- this isn't just Mary Jo
 10 White who had this reaction.
 11 (Whereupon, news article entitled
 12 NASDAQ: 'Connectivity issue' Led to Three-Hour
 13 Shutdown was marked as Graff Exhibit 7, for
 14 identification, as of this date.)
 15 Q. So I'm showing you what's been marked as Graff
 16 Exhibit 7. It's a news article about the shutdown,
 17 which quotes on page 3 a quote from former SEC Chairman
 18 Harvey Pitt, saying it looked like NASDAQ was clueless
 19 about how to deal with this emergency.
 20 Again, I'm not doing this, Mr. Graff, to
 21 suggest that you were. But my point is, NASDAQ wasn't
 22 clueless, it did have business continuity plans in
 23 place. It's just in this one respect, they failed,
 24 right?
 25 A. Well, NASDAQ had robust defenses in -- both in

96

Mark Graff
2/14/2025

<p>1 the cyber area and also in other areas, and although 2 this wasn't a cybersecurity incident by any stretch of 3 the imagination, there was an outage that lasted a few 4 hours. It was a serious problem, I agree, and it looks 5 to me, in retrospect, although I really don't remember 6 the incident very well, that the business continuity 7 plans should have handled it better than they did. 8 That's why they apologized.</p> <p>9 Q. Yeah. And so my only point in all this, 10 Mr. Graff, is just because a major issue arises, that 11 doesn't imply that there was any systemic failure to 12 implement controls, does it?</p> <p>13 MR. CARNEY: Objection. Vague as to 14 "controls."</p> <p>15 A. Well, an outage like this -- this one, 16 apparently, according to the statement, came from a 17 design flaw. So we could talk about whether or not, you 18 know, design flaws sometimes indicate a systemic issue, 19 sometimes they don't. But that doesn't really relate to 20 the kinds of failures that I described in my report that 21 were identified by the SolarWinds employees and others, 22 as I've said.</p> <p>23 Q. Mr. Graff, you told Congress the business 24 continuity plans were robust and took into consideration 25 realtime failovers of market trading platforms. That</p>	<p>1 A. Significant, you bet. 2 Q. That doesn't mean NASDAQ didn't have business 3 continuity controls in place? 4 A. Yeah, we had controls in place. The controls 5 seemed to have failed for a few hours, but yeah. 6 MR. TURNER: All right. We can take a 7 break now if you want. 8 THE VIDEOGRAPHER: The time right now 9 is 12:08 p.m. We're off the record. 10 (Whereupon, a short break was taken.) 11 THE VIDEOGRAPHER: Stand by, please. 12 The time right now is 1:02 p.m., and we're back 13 on the record. 14 Q. Welcome back, Mr. Graff. 15 A. Thank you. 16 Q. So let's get more specific and talk about some 17 of the particular assertions in the security statement 18 that are at issue. I want to start with the statement 19 following NIST, the statement that SolarWinds follows 20 the NIST cybersecurity framework. 21 You say in paragraph 21 of your report -- you 22 say that this statement was too vague for you to 23 evaluate. 24 Do you remember that? 25 A. I do remember.</p>
<p>97</p> <p>1 was true, right? You had robust continuity plans in 2 place. That does not imply that there might not be 3 serious issues that arise with respect to those 4 controls?</p> <p>5 MR. CARNEY: Objection to form.</p> <p>6 A. Well, we -- yeah, I told Congress we had robust 7 business continuity plans. We did. And the system, 8 nevertheless, was overwhelmed and failed for a few hours 9 in 2013.</p> <p>10 Q. And that doesn't make your testimony false, 11 does it?</p> <p>12 A. Well, they're not related really. I talked 13 about what our plans were and what our processes were. 14 And I don't believe I said that we would be able to 15 resist any possible problem.</p> <p>16 Q. Yeah, you didn't say they would be perfect, 17 right?</p> <p>18 A. I didn't say that.</p> <p>19 Q. Right. They weren't perfect in this instance, 20 right?</p> <p>21 A. In the NASDAQ outage instance and the SIP 22 incident.</p> <p>23 Q. They were not perfect in that instance?</p> <p>24 A. They were not perfect, I agree.</p> <p>25 Q. And the consequences were major, right?</p>	<p>99</p> <p>1 Q. So I just want to be clear. You did not try to 2 evaluate whether this assertion was true or false, 3 correct?</p> <p>4 A. What was that paragraph number? Is it 21, did 5 you say?</p> <p>6 Q. Paragraph 21 on page 8.</p> <p>7 A. I did not try to evaluate whether that 8 particular statement was, per se, true or false.</p> <p>9 Q. So you don't have the opinion that the 10 assertion was false?</p> <p>11 A. I found that it was not a clear enough 12 statement given the context of the cybersecurity 13 framework to evaluate whether or not they actually were 14 following it. Because it's not clear to me what they 15 mean by "follow" exactly, because it's not a standard.</p> <p>16 Q. All right. Fair enough. And when you say it's 17 not a standard, you mean it doesn't prescribe specific 18 practices that companies are supposed to follow?</p> <p>19 A. Well, that's not precisely what I mean. There 20 are cybersecurity standards. There's the ISO/IEC 27001, 21 which is, of course, the European. There are standards 22 in Europe, the GDPR and so forth, but the U.S. doesn't 23 have -- for unclassified systems -- doesn't have a 24 formal standard in cybersecurity. There are 25 recommendations, guidelines, frameworks, but there's not</p>